

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

Claims 1-39 (Canceled)

40. (Currently Amended) A computer implemented method of selectively displaying port information for a network device in a network topology display comprising:

displaying a graphical device node in the network topology display, the graphical device node representing the network device having a first connection port and a second connection port connected in the network;

displaying in the network topology display at least one connection path of the network coupled to the graphical device node, the at least one connection path graphically representing network connections to the first connection port and the second connection port of the device; and

selectively expanding the graphical device node in response to a user selection of the graphical device node to display an expanded device node, wherein the expanded device node concurrently displays a graphical representation of the first connection port connected to a first connection path of the network and a graphical representation of the second connection port connected to a second connection path of the network,

wherein the expanded device node further displays port information for the first connection port and the second connection port, and the port information comprises a port connection type indicator.

41. (Previously Presented) The computer-implemented method of claim 40, wherein the graphical device node represents a network device selected from the group consisting of a switch, a hub, and a router.

42. (Canceled)

43. (Currently Amended) The computer-implemented method of claim [[42]] 40, wherein the port information further comprises a port number.

44. (Canceled)

45. (Previously Presented) The computer-implemented method of claim 40, wherein the selectively expanding operation comprises displaying a connection bar and displaying port information proximal the connection bar for the first connection port and the second connection port.

46. (Previously Presented) The computer-implemented method of claim 45, wherein the displayed port information for each port is displayed proximal the connection bar in a location indicating the relative location of the corresponding connected network device in the network topology display.

47. (Previously Presented) The computer-implemented method of claim 40, wherein the graphical device node represents the network device and one or more devices connected to the network device.

48. (Previously Presented) A computer implemented method of selectively displaying port information for a network device in a network topology display comprising:

displaying a graphical device node in a network topology display, the graphical device node representing the network device having a first connection port and a second connection port connected in the network;

displaying in the network topology display at least one connection path of the network coupled to the graphical device node, the at least one connection path graphically representing network connections to the first connection port and the second connection port of the device; and

concurrently displaying port information for the first connection port and the second connection port in response to a user selection of the graphical device node, wherein the displayed port information comprises a port number and a port connection type indicator.

49. (Previously Presented) The computer-implemented method of claim 48, wherein the graphical device node represents a network device selected from the group consisting of a switch, a hub, and a router.

50. (Previously Presented) The computer-implemented method of claim 48, wherein the concurrently displaying port information operation includes displaying a connection bar and displaying the port information proximal the connection bar for each of the first connection port and the second connection port.

51. (Previously Presented) The computer-implemented method of claim 50, wherein the displayed port information for each of the first connection port and the second connection port is displayed proximal to the connection bar in a location indicating the relative location of the corresponding connected device in the network topology display.

52. (Previously Presented) The computer-implemented method of claim 48, wherein the concurrently displaying port information operation includes displaying port information for each port of the network device having an actual connection in the network.

53. (Previously Presented) The computer-implemented method of claim 52, wherein the displayed port information for each port of the network device having an actual connection in the network is displayed proximal to a connection bar in a location indicating the relative location of the corresponding connected device in the network topology display.

54. (Previously Presented) The computer-implemented method of claim 48, wherein the user selection is performed by the user using a computer mouse.

55. (Previously Presented) The computer-implemented method of claim 48, wherein the user selection includes selecting the displayed device node with a user input device.

56. (Previously Presented) The computer-implemented method of claim 48, wherein the user selection includes selecting a show ports option from a menu of options.

57. (Previously Presented) The computer-implemented method of claim 56, further comprising displaying the menu of options in response to a user selection of the displayed device node.

58. (Previously Presented) The computer-implemented method of claim 48, further comprising removing the displayed port information from the display in response to a user selection to remove port information.

59. (Previously Presented) The computer-implemented method of claim 48, wherein the graphical device node represents the network device and one or more devices connected to the network device.

60. (Previously Presented) A computer readable medium containing instructions for controlling a computer system to selectively display device port information for a network device in a network topology display, by:

displaying a graphical device node in the network topology display, the graphical device node representing the network device having a first connection port and a second connection port connected in a network;

displaying in the network topology display at least one connection path of the network coupled to the graphical device node, the at least one connection path representing network connections to the first connection port and the second connection port of the network device; and

concurrently displaying port information for the first connection port and the second connection port in response to a user selection of the graphical device node, wherein the displayed port information comprises an indication of the connection ports having an actual connection to another device in the network and the connection ports having no connection.

61. (Previously Presented) The computer readable medium of claim 60, wherein the network device comprises one of a switch, a hub and a router.

62. (Previously Presented) The computer readable medium of claim 60, wherein the network comprises a storage area network (SAN).

63. (Previously Presented) The computer readable medium of claim 60, wherein the instructions for displaying port information comprise instructions for displaying a connection bar and displaying the port information proximal the connection bar for each connection port of the network device having an actual connection in the network.

64. (Previously Presented) The computer readable medium of claim 63, wherein the instructions for displaying the port information comprise instructions for displaying the port information for each connection port of the network device having an actual connection to a

connected device of the network proximal to the connection bar in a location so as to indicate the relative location of the corresponding connected device in the network topology display.

65. (Currently Amended) A method for displaying port information for a network device in a network topology display, comprising:

displaying a network topology display comprising a graphical device node representing a network device in a physical network, the network device comprising a plurality of connection ports for connecting to other devices in the network;

in the network topology display, displaying at least one connection path coupled to the graphical device node, the at least one connection path representing connections from the other devices to a portion of the plurality of connection ports of the network device;

receiving a user selection of the graphical device node in the network topology display; and

in response to the receiving of the user selection, modifying the displayed network topology display to include an expanded view of the displayed device node, wherein the expanded view concurrently displays port information for the portion of the connection ports connected to the other devices in the network and wherein the port information for the portion of the connection ports connected to the other devices in the network is displayed in locations in the expanded view indicating relative locations in the network topology display of the other devices connected to the graphical device node,

wherein the expanded view further comprises port information for the connection ports of the device node that are not connected to the other devices in the network.

66. (Previously Presented) The method of claim 65, wherein the port information corresponding to the portion of the connection ports connected to the other devices in the network is displayed within the expanded view at elevations corresponding to elevations in the network topology display of the other devices connected to the device node.

67. (Canceled)

68. (Previously Presented) The method of claim 65, wherein the port information is selected from a group of port information consisting of a port number, a port type, and a port state.

69. (Previously Presented) The method of claim 68, further comprising receiving a user-input configuration request defining a subset of the group of port information to be included in the displayed port information, and wherein the displayed port information is configured to comprise the subset.

70. (Currently Amended) A method comprising:

displaying a network topology display including graphical device nodes and at least one connection path connecting the graphical device nodes, each graphical device node representing a network device comprising a plurality of connection ports for connecting to other devices in the network, each connection path representing at least one communicative connection between a connection port of a network device and another device in the network;

detecting a user input event associated with the network topology display; and

modifying the network topology display to expand one of the graphical device nodes in the network topology display responsive to the operation of detecting a user input event, the expanded graphical device node concurrently displaying a plurality of port information indicators not displayed by the displaying operation, each port information indicator representing an individual connection port of the network device represented by the graphical device node and at least one of the plurality of port information indicators representing a connection port of the network device having a communicative connection to another device in the network,

wherein the expanded displayed device node displays a port information indicator for each connection port of the connection device having a communicative connection to another device in the network and for each connection port of the connection device not having a communicative connection to another device in the network.

71. (Currently Amended) A computer-readable medium having computer-executable instructions for performing a computer process, the computer process comprising:

displaying a network topology display including graphical device nodes and at least one connection path connecting the graphical device nodes, each graphical device node representing a network device comprising one or more connection ports for connecting to other devices in the network, each connection path representing at least one communicative connection between a connection port of a network device and another device in the network;

detecting a user input event associated with the network topology display; and

modifying the network topology display to expand one of the graphical device nodes in the network topology display responsive to the operation of detecting a user input event, the expanded graphical device node concurrently displaying a plurality of port information indicators not displayed by the displaying operation, each port information indicator representing an individual connection port on the network device represented by the graphical device node, wherein at least one of the port information indicators represents an individual connection port of the network device having a communicative connection to another device in the network,

wherein the expanded displayed device node displays a port information indicator for each connection port of the connection device having a communicative connection to another device in the network and for each connection port of the connection device not having a communicative connection to another device in the network.

72. (Previously Presented) The computer-readable medium of claim 71 wherein the computer process further comprises:

detecting another user input event associated with the network topology display; and

modifying the network topology display to collapse the expanded graphical device node in the network topology display responsive to the operation of detecting another user input event, the collapsed graphical device node omitting display of the port information indicators.

73. (Previously Presented) The computer-readable medium of claim 71 wherein each displayed port information indicator representing a connection port having a communicative connection to another device in the network is graphically associated with a connection path representing the communicative connection.

74. (Previously Presented) The computer-readable medium of claim 71 wherein the expanded graphical device node displays a port information indicator for each connection port of the network device having a communicative connection to another device in the network.

75. (Previously Presented) The computer-readable medium of claim 71 wherein the expanded graphical device node displays port information indicators for connection ports of the network device having communicative connections to one or more other devices in the network and does not display port information indicators for connection ports of the network device not having communicative connections to one or more other devices in the network.

76. (Canceled)

77. (Previously Presented) The computer-readable medium of claim 71 wherein at least one port information indicator displays a port connection type indicator.

78. (Previously Presented) The computer-readable medium of claim 71 wherein at least one port information indicator displays a port number indicator.

79. (New) A computer-readable medium having computer-executable instructions for performing a computer process, the computer process comprising:

displaying a graphical device node in the network topology display, the graphical device node representing the network device having a first connection port and a second connection port connected in the network;

displaying in the network topology display at least one connection path of the network coupled to the graphical device node, the at least one connection path graphically representing network connections to the first connection port and the second connection port of the device; and

selectively expanding the graphical device node in response to a user selection of the graphical device node to display an expanded device node, wherein the expanded device node concurrently displays a graphical representation of the first connection port connected to a first connection path of the network and a graphical representation of the second connection port connected to a second connection path of the network,

wherein the expanded device node further displays port information for the first connection port and the second connection port, and the port information comprises a port connection type indicator.

80. (New) The computer-readable medium of claim 79, wherein the graphical device node represents a network device selected from the group consisting of a switch, a hub, and a router.

81. (New) The computer-readable medium of claim 79, wherein the port information further comprises a port number.

82. (New) The computer-readable medium of claim 79, wherein the selectively expanding operation comprises displaying a connection bar and displaying port information proximal the connection bar for the first connection port and the second connection port.

83. (New) The computer-readable medium of claim 82, wherein the displayed port information for each port is displayed proximal the connection bar in a location indicating the relative location of the corresponding connected network device in the network topology display.

84. (New) The computer-readable medium of claim 79, wherein the graphical device node represents the network device and one or more devices connected to the network device.

85. (New) A computer-readable medium having computer-executable instructions for performing a computer process, the computer process comprising:

displaying a graphical device node in a network topology display, the graphical device node representing the network device having a first connection port and a second connection port connected in the network;

displaying in the network topology display at least one connection path of the network coupled to the graphical device node, the at least one connection path graphically representing network connections to the first connection port and the second connection port of the device; and

concurrently displaying port information for the first connection port and the second connection port in response to a user selection of the graphical device node, wherein the displayed port information comprises a port number and a port connection type indicator.

86. (New) The computer-readable medium of claim 85, wherein the graphical device node represents a network device selected from the group consisting of a switch, a hub, and a router.

87. (New) The computer-readable medium of claim 85, wherein the concurrently displaying port information operation includes displaying a connection bar and displaying the port information proximal the connection bar for each of the first connection port and the second connection port.

88. (New) The computer-readable medium of claim 87, wherein the displayed port information for each of the first connection port and the second connection port is displayed proximal to the connection bar in a location indicating the relative location of the corresponding connected device in the network topology display.

89. (New) The computer-readable medium of claim 85, wherein the concurrently displaying port information operation includes displaying port information for each port of the network device having an actual connection in the network.

90. (New) The computer-readable medium of claim 89, wherein the displayed port information for each port of the network device having an actual connection in the network is displayed proximal to a connection bar in a location indicating the relative location of the corresponding connected device in the network topology display.

91. (New) The computer-readable medium of claim 85, wherein the user selection includes selecting a show ports option from a menu of options.

92. (New) The computer-readable medium of claim 91, further comprising displaying the menu of options in response to a user selection of the displayed device node.

93. (New) The computer-readable medium of claim 85, further comprising removing the displayed port information from the display in response to a user selection to remove port information.

94. (New) The computer-readable medium of claim 85, wherein the graphical device node represents the network device and one or more devices connected to the network device.

95. (New) A computer implemented method of selectively displaying port information for a network device in a network topology display comprising:

displaying a graphical device node in the network topology display, the graphical device node representing the network device having a first connection port and a second connection port connected in a network;

displaying in the network topology display at least one connection path of the network coupled to the graphical device node, the at least one connection path representing network connections to the first connection port and the second connection port of the network device; and

concurrently displaying port information for the first connection port and the second connection port in response to a user selection of the graphical device node, wherein the displayed port information comprises an indication of the connection ports having an actual connection to another device in the network and the connection ports having no connection

96. (New) The computer-implemented method of claim 95, wherein the network device comprises one of a switch, a hub and a router.

97. (New) The computer-implemented method of claim 95, wherein the network comprises a storage area network (SAN).

98. (New) The computer-implemented method of claim 95, wherein the instructions for displaying port information comprise instructions for displaying a connection bar and displaying the port information proximal the connection bar for each connection port of the network device having an actual connection in the network.

99. (New) The computer-implemented method of claim 98, wherein the instructions for displaying the port information comprise instructions for displaying the port information for each connection port of the network device having an actual connection to a connected device of the network proximal to the connection bar in a location so as to indicate the relative location of the corresponding connected device in the network topology display.

100. (New) A computer-readable medium having computer-executable instructions for performing a computer process, the computer process comprising:

displaying a network topology display comprising a graphical device node representing a network device in a physical network, the network device comprising a plurality of connection ports for connecting to other devices in the network;

in the network topology display, displaying at least one connection path coupled to the graphical device node, the at least one connection path representing connections from the other devices to a portion of the plurality of connection ports of the network device;

receiving a user selection of the graphical device node in the network topology display; and

in response to the receiving of the user selection, modifying the displayed network topology display to include an expanded view of the displayed device node, wherein the expanded view concurrently displays port information for the portion of the connection ports connected to the other devices in the network and wherein the port information for the portion of the connection ports connected to the other devices in the network is displayed in locations in the expanded view indicating relative locations in the network topology display of the other devices connected to the graphical device node,

wherein the expanded view further comprises port information for the connection ports of the device node that are not connected to the other devices in the network.

101. (New) The computer-readable medium of claim 100, wherein the port information corresponding to the portion of the connection ports connected to the other devices in the network is displayed within the expanded view at elevations corresponding to elevations in the network topology display of the other devices connected to the device node.

102. (New) The computer-readable medium of claim 100, wherein the port information is selected from a group of port information consisting of a port number, a port type, and a port state.

103. (New) The computer-readable medium of claim 102, further comprising receiving a user-input configuration request defining a subset of the group of port information to be included in the displayed port information, and wherein the displayed port information is configured to comprise the subset.